

CLAIMS

WHAT IS CLAIMED:

- 5 1. A method of switch hook detection for a host transceiver, comprising:
receiving a signal over a connection from a telephonic device;
determining if the signal is greater than a first preselected value;
adjusting a transient response time of the host transceiver configured to receive the
signal in response to determining that the signal is greater than the first
10 preselected value; and
determining a switch hook state of the telephonic device based on a DC component of
the signal.
- 15 2. The method of claim 1, wherein the connection is a subscriber line, and
wherein the DC component of the signal comprises a signal proportional to a DC current
flowing from the subscriber line.
- 20 3. The method of claim 2, wherein determining the switch hook state of the
telephonic device includes waiting a first preselected interval.
4. The method of claim 3, wherein determining the switch hook state of the
telephonic device includes determining if the DC current is greater than a second preselected
value in response to waiting the first preselected interval.

5. The method of claim 2, wherein determining if the signal is greater than the first preselected value comprises determining if a portion of the host transceiver is in a saturation state.

5 6. The method of claim 5, wherein adjusting the transient response time of the host transceiver includes increasing a bandwidth of a DC cancellation loop adapted to receive the signal.

7. The method of claim 6, wherein the DC cancellation loop includes an integrator, and wherein increasing the bandwidth of the DC cancellation loop includes increasing a step size of the integrator.

8. The method of claim 7, further including decreasing the bandwidth of the DC cancellation loop in response to determining that the signal is less than a third preselected value.

9. The method of claim 8, wherein the third preselected value is an indication that the host transceiver is no longer in the saturation state.

20 10. A method of switch hook detection for a host transceiver, comprising:
receiving a signal over a connection from a telephonic device;
detecting a transient in the signal using a high-pass filter;
waiting a first preselected interval in response to detecting the transient; and
using a low-pass filter to verify a DC component of the signal to determine a switch
25 hook state of the telephonic device.

11. The method of claim 10, wherein the connection is a subscriber line, and wherein the DC component of the signal comprises a signal proportional to a DC current flowing from the subscriber line.

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12. The method of claim 11, wherein the first preselected interval is equal or greater than a settling time of the low-pass filter.

13. An apparatus, comprising:

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first logic capable of receiving a signal over a connection from a telephonic device;

second logic capable of determining if the signal is greater than a first preselected value;

third logic configured to receive the signal, the third logic being capable of adjusting a transient response of the apparatus configured to receive the signal in response

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to determining that the signal is greater than the first preselected value; and

fourth logic capable of determining a switch hook state of the telephonic device based on a DC component of the signal.

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14. The apparatus of claim 13, wherein the connection is a subscriber line, and wherein the DC component of the signal comprises a signal proportional to a DC current from the subscriber line.

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15. The apparatus of claim 14, wherein determining the switch hook state of the telephonic device includes waiting a first preselected interval.

16. The apparatus of claim 14, wherein the fourth logic being capable of determining the switch hook state of the telephonic device includes the fourth logic being capable of determining if the DC current is greater than the second preselected value.

5 17. The apparatus of claim 14, wherein the second logic being capable of determining if the signal is greater than the first preselected value comprises the second logic being capable of determining if a portion of the apparatus is in a saturation state.

10 18. The apparatus of claim 17, wherein the third logic being capable of adjusting the transient response time of the apparatus includes increasing a step size of an integrator adapted to receive the signal.

15 19. The apparatus of claim 18, wherein the third logic is further capable of decreasing the step size of the integrator in response to determining that the signal is less than a third preselected value.

20 20. The apparatus of claim 19, wherein the third preselected value is an indication that the apparatus is no longer in the saturation state.

21. A host transceiver, comprising:
a subscriber line interface circuit capable of interfacing with a telephonic device over a connection, the subscriber line interface circuit being capable of providing a signal; and

a subscriber line audio-processing circuit configured to receive the signal from the subscriber line interface circuit, the subscriber line audio-processing circuit comprising:

first logic capable of determining if the signal is greater than a first preselected value;

second logic configured to receive the signal, the second logic being capable of adjusting a transient response of the host transceiver configured to receive the signal in response to determining that the signal is greater than the first preselected value; and

third logic capable of determining a switch hook state of the telephonic device based on a DC component of the signal.

22. The host transceiver of claim 21, wherein the connection is a subscriber line, and wherein the DC component of the signal comprises a signal proportional to a DC current from the subscriber line.

23. The host transceiver of claim 22, wherein the third logic being capable of determining the switch hook state of the telephonic device includes the third logic being capable of determining if the DC current is greater than the second preselected value.

24. The host transceiver of claim 22, wherein the first logic being capable of determining if the signal is greater than the first preselected value comprises the first logic being capable of determining if a portion of the apparatus is in a saturation state.

25. The host transceiver of claim 24, wherein the second logic being capable of adjusting the transient response time of the host transceiver includes increasing a step size of an integrator adapted to receive the signal.

5 26. The host transceiver of claim 25, wherein the second logic is further capable of decreasing the step size of the integrator in response to determining that the signal is less than a third preselected value.

10 27. The host transceiver of claim 26, wherein the third preselected value is an indication that the apparatus is no longer in the saturation state.

28. An apparatus, comprising:

means for receiving a signal over a connection from a telephonic device;

means for determining if the signal is greater than a first preselected value;

15 means for adjusting a transient response time of the apparatus configured to receive the signal in response to determining that the signal is greater than the first preselected value; and

20 means for determining a switch hook state of the telephonic device in response to determining if a DC component of the signal is greater than the second preselected value.